LANCER

820 LX / 910 LX / 1300 LX
USER MANUAL

ORIGINAL INSTRUCTIONS

PRECAUTIONS TO BE TAKEN BEFORE USE

- Users must be trained before using the washer-dryer.
- The staff that use or repair this washer-dryer must have followed a complete training referring its use and maintenance. This training must include the selection and understanding of the washing cycle, the loading and unloading of the baskets and the handling of the washing products.
- The staff in contact with the detergent products and its emanations, which could be used in this washer-dryer, must have knowledge of the safety data sheet of the used products as well as the detailed instructions about the dangers and the detection of toxic product leaks.
- The training of the users and technicians must be done regularly and always before the first use of the washer-dryer. A written register of these trainings must be kept in order to prove the presence and the understanding of the interested parties.

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CHAPTER 1
INTRODUCTION

You have in your possession a GETINGE LANCER washer-dryer.

Its good working and your entire satisfaction depend on the attention you pay when reading this guide.

You will find here some advices about the use, the loading and the maintenance. Follow them, as they have been written in your interest.

Before using your washer, learn to know it and use it rightly, so it will do for many years the job it was developed for.

1. COPYRIGHT – LIABILITY

All rights reserved.

GETINGE LANCER pays close attention to all technical developments and continuously seeks to improve its products and services in order to provide an adequate response to the needs of its clients.

GETINGE LANCER therefore reserves the right to modify the related documentation without prior notice.

2. MANUFACTURER

The LABEXIA range is manufactured in our Center of Excellence in washer-driers glassware:

GETINGE LANCER
30, Bd de l'Industrie - Z.I. Pahin
31170 Tournefeuille - France

3. 820 LX / 910 LX / 1300 LX RANGE

820 LX / 910 LX / 1300 LX washers-dryers belongs to the LABEXIA range of washer-driers for the cleaning and drying of labware in the chemistry, microbiology, quality control and analytical laboratories.

Fully programmable, easy to use, 820 LX/ 910LX / 1300 LX features technological innovations as the injector drying system, using hot HEPA filtered air, or the automatic electric door locking for the users comfort and safety.

Some of the main features of 820 LX / 910LX / 1300 LX washers-dryers:

- Multiple loading configurations thanks to several independent washing levels, the upper level can be positioned in two (910 LX) or three (1300 LX) different positions (one position for 820 LX).

- Microprocessor control, with 4 pre-set programs plus 38 other open programs featuring programmable parameters

- Easy loading and unloading thanks to the ergonomic loading level (plinth option for 820 LX), the extractable runners for the baskets and the automatic electric door lock.

- Internal and external labware drying system by means of hot, HEPA filtered air.

This washer has been developed and manufactured following the standards (CE or UL).

For the washers in conformity with the CE standards, a "CE conformity declaration" is delivered with the machines.

4. USER MANUAL

The present manual is destined to facilitate the operations of use, handle, maintenance and repair.

This only concerns the operations to be done by an owner of code user.

Before using your washer-dryer and in order to obtain the best service read carefully the following advices and recommendations. Follow them, as they have been written in your interest.

Respecting the precautionary measures of use, the washer-dryer must only be used for the washing operations described in the manual.

This manual is divided in 6 chapters, completed by an appendix.

You have just ended the reading of chapter 1.

Chapter 2 will familiarize yourself with your washer-dryer in order to use it as correct as possible.

Chapter 3 describes step by step the washing process, of launching a cycle at the end of this one and the operations which can be made by an owner of a user code.

Chapter 4 introduces the different traceability systems available in the LABEXIA LX range washers-dryers.

Chapter 5 describes the operations of internal and external maintenance of your washer-dryer in order to keep it in good state as long possible.

Chapter 6 is a description of the different working incidents that you could find when using your washer-dryer.

In Appendix you will find the safety data sheet of the GETINGE LANCER washing products.

All over this manual, we have incorporated brief comments and icons to help you locate the important information.

When you see this icon, it means:

: ATTENTION ! ! PAY SPECIAL ATTENTION ! !

CHAPTER 2
BEFORE YOU START

After having installed rightly your washer-dryer, following the installation manual, you can begin to familiarize with this one.

You will find in this chapter all the information of indispensable knowledge to assure the good working and avoid material and corporal damage.

1. SAFETY ADVICES

This apparatus, dedicated to an industrial use, has been developed to wash and dry glassware, labware in the chemistry, microbiology, quality control and analytical laboratories …

This washer must be used under the normal conditions of operation in conformity with the instructions manual of the manufacturer
We decline any responsibility and guarantee in the event of non-respect of these recommendations which can involve body or material damages

- Use only products of washing and cleaning certified for employment with washers of laboratory glassware.
- If before washing, you treat your material of laboratory using solvents and in general, all produced flammable or with strong detonating capacity, do not introduce immediately it into the chamber of the apparatus.
- In the same way, it is strongly recommended not to use solvents or aerosols near the apparatus.
- If incidents occur and you cannot solve them using solutions that we recommend you, do not hesitate to contact GETINGE LANCER's technical assistance service.

1.1 PRECAUTIONS FOR USE

TEMP. > 60°C

(D) NICHT WÄHREND DEM SPÜLGANG ÖFFNEN
(F) NE PAS OUVRIR EN FONCTIONNEMENT
(GB) DO NOT OPEN WHEN FUNCTIONING
(NL) NIET OPENEN TIJDENS PROCES

It is strictly prohibited to use the washer in an explosive environment or to use solvents, hydrocarbons, nitric acid, alcohol, alcohol derivatives, or other flammable products in the machine.

SAFETY GLASSES OBLIGATORY

SAFETY GLOVES OBLIGATORY

Risk for operator depends on the products (detergents and acids) used inside the machine and on the nature of deposit on washing items.

Wearing safety glasses and gloves must not be sufficient in some cases.

Operator has to read safety data sheets of used products (delivered with the washer-dryer) so as to prevent risk before opening the door.

1.2 USE

DO NOT FORCE DOOR LOCKING DEVICE DURING A WASHING CYCLE

This machine uses detergent (caustic) and acid additives with elevated (95°C) temperatures in the chamber during the different phases of the wash cycle. Opening the door during the wash cycle can cause **EXPOSURE TO HIGH TEMPERATURES AND HAZARDOUS CHEMICALS AND VAPORS**.

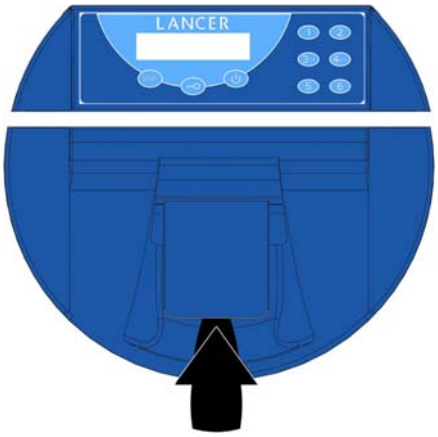
WASH CYCLE INTERRUPTED BY OPENED DOOR

If the wash chamber door is opened during the wash, the wash cycle is stopped and is considered unsuccessful. The machine will return to its initial state. The wash cycle should be restarted using the steps contained in this manual

WASH CYCLE INTERRUPTED BY ALARM CONDITION

If the machine goes into an alarm condition, the wash cycle is stopped and is considered unsuccessful. The machine will return to its initial state. Resolve the problem then restart the cycle

2. OPENING THE WASHER'S DOOR



Pull the handle and lower the door to the horizontal position.

At start of cycle, door is automatically locked.

If a "CYCLE ALARM" occurs, unlock the door by pressing on button then open the door.

At end of cycle, wait few seconds to allow door unlocking then open the door

Do not force to open the door during a washing cycle, door safety locking device can be damaged.

Do not climb or sit on the door.

3. MAXIMUM CHARGE

Respect the maximum charge allowed for the loading at the door and upper level.

Do not climb or sit on the door.

When several racks are used simultaneously on the different levels, only one rack should be pulled out of chamber on the door and the runners at a time.

Maximum charge permissible allowed (basket + items to be washed) on the different levels is :

	820 LX / 910 LX	1300 LX
Door level to avoid tilting	44 kg	51 kg
	52 kg (if plinth)	
First level in the chamber	26 kg	26 kg
Upper level in the chamber	23 kg	23 kg

Check that your basket may support the weight of your parts to be washed.

You should only use baskets that are suitable for the parts to be washed. When your washer is put into service, our technicians will give you useful advice on the best way to load the racks relative to the items to be washed.

It is possible to strengthen the baskets to your request, please feel free to contact GETINGE LANCER for advice or assistance.

4. WASHING PRODUCTS

THE PROGRAMS PREESTABLISHED WITH THIS WASHER HAVE BEEN VALIDATED WITH THE GETINGE LANCER WASHING PRODUCTS.

4.1 WASHING PRODUCTS CATEGORIES

NON-FOAMING DETERGENT

Using the correct non-foaming detergent is required for proper cleaning in this machine. The non-foaming detergent must be matched to remove the contamination source in order to ensure satisfactory washing.
IT IS STRICTLY PROHIBITED TO USE SOLVENTS AS DETERGENT.
PLEASE REFER TO SUPPLIERS MATERIAL SAFETY DATA SHEET FOR SPECIFIC SAFETY AND FORMULATION INFORMATION REGARDING THE DETERGENT USED IN THIS EQUIPMENT.
THE PROGRAMMED CYCLES ON THIS WASHER HAVE BEEN VALIDATED WITH GETINGE LANCER CHEMICALS.

NEUTRALIZING ACID

Using the correct non-foaming neutralizing acid is required for proper cleaning in this machine. The non-foaming neutralizing acid must be matched to remove the detergent source in order to ensure satisfactory washing.
THE USE OF NITRIC ACID IS PROHIBITED. ONLY DILUTE PHOSPHORIC, ACETIC AND CITRIC ACIDS CAN BE USED.
PLEASE REFER TO SUPPLIERS MATERIAL SAFETY DATA SHEET FOR SPECIFIC SAFETY AND FORMULATION INFORMATION REGARDING THE ACID USED IN THIS EQUIPMENT.
THE PROGRAMMED CYCLES ON THIS WASHER HAVE BEEN VALIDATED WITH GETINGE LANCER CHEMICALS.

4.2 INSTRUCTIONS TO RESPECT IN CASE OF HANDLING THE WASHING PRODUCTS

ANYBODY CALLED TO HANDLE THE WASHING PRODUCTS MUST BE INFORMED OF THE IMPLICATED RISKS TO THESE PRODUCTS.

4.3 INSTRUCTIONS TO RESPECT IN CASE OF CHANGING THE PRODUCT FORMULA

Before changing to a different type or brand of cleaning chemical (acid or detergent) it is necessary to rinse the plumbing circuitry of the machine. Install the new chemical(s) per the installation instructions and then prime the detergent and acid pumps. Then a wash cycle can be programmed and run which uses several rinses with water only. This will prevent any cross contamination of chemicals.

After the new cleaning chemical have been installed, it will be necessary to adjust the chemical dosing times in all applicable steps of the wash cycle in order to match the formulation of the new cleaning chemicals.

Please contact GETINGE LANCER for advice or assistance.

4.4 CHANGE OF THE TANKS

Before launching the cycle, check product tank levels and change those with low levels so as to avoid bad washing because of a lack of additive.

WHEN TO CHANGE THE CHEMICAL CONTAINERS

This message is displayed when the chemical bottles are almost empty.

```
W A R N I N G   ! ! !
L A C K   O F   C H E M I C .
```

It is necessary to fill or change the detergent or acid containers to continue the cycle.

HOW TO CHANGE THE CHEMICAL CONTAINERS ?

Press ⏻ button to switch off the washer.

Use the necessary protection for the chemical to be changed (gloves, mask, safety glasses…) .
Locate the container(s) that need to be changed.
Unscrew the cap(s) from the empty chemical bottle(s) and take out the chemical suction tube(s).
Unscrew the cap(s) from the full chemical bottle(s) and insert the chemical suction tube(s). Tighten the cap(s) to secure the chemical suction tube in place.

Press ⏻ button to switch the washer on.

Dispose of used chemical bottles or caps according to local and company regulations. Please consult the Material Safety Data Sheet for specific information regarding the chemicals used in the washer.

5. EXTERNAL PRINTER (OPTION)

5.1 CHECKING THE PRINTER

Before launching any cycle or reprinting the printout, check the quantity of paper of the printer roller.

5.2 CHOICE OF THE SUITABLE PAPER ROLLS

It is recommended that a high quality thermal paper be used with a minimum of seven years life expectancy. The use of non-approved products can cause dust and increased wear. This can affect the warranty. The paper roll is delivered separately in order to prevent it from unrolling or becoming damaged during transport. Consult your GETINGE LANCER representative about suitable paper rolls.

5.3 REMOVING PAPER AND CLEARING PAPER JAMS

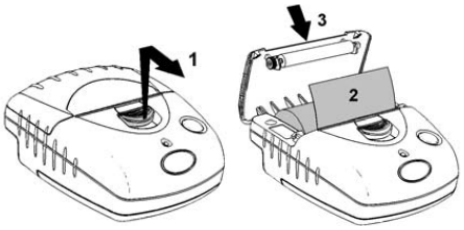
If there is some paper in the printer when a new roll is necessary or a paper jam has occurred, simply open the cover and press the paper advance button.

5.4 LOADING PAPER

1. Slide the cover opening button forward until it opens.

2. Unroll a small amount of paper and insert the paper roll in the printer.

3. Close the cover, the paper has been loaded.



Pressing on the paper advance button while the printer is on standby mode makes the paper advance. However, the advance button has several other functions:

⇨Pressing the button once and releasing it:

- In standby mode, makes the paper advance.
- In sleep mode, makes the printer go into the standby mode.

⇨In standby mode, a “double click” on the button•, prints out a sample message.

5.5 OPERATING MODES

“Stand-by mode”: ready to receive data but there is no data waiting to be printed out in the buffer and the printer engine is not turning.

“Sleep mode”: actually disabled. If the paper advance button is pressed, the external charger connected or external data is received, the printer leaves sleep mode and enters stand-by mode. The LED is off in sleep mode.

There is no switch. Powering up is automatic or carried out by a command received from the washer-disinfector. To save energy, the printer enters sleep mode after a period of inactivity. The printer can be also programmed to always remain active or to enter sleep mode on command.

5.6 PRINTER MAINTENANCE

After a certain time of use, it may prove necessary to remove paper dust from inside and around the mechanism. Use a small vacuum for cleaning.

5.7 NOTE PRINTING

If the printer is connected to a battery pack and not an AC battery charger, it is imperative to control the operating mode (sleep mode / idle mode) of your printer prior to launch the printing.

In the user menu, you can access to the reprinting cycles tickets and in the supervisor menu for printing:

- program parameters
- configuration settings.

If the printer is in sleep mode, the data launched from these menus will be lost.

It is imperative to enable the printer by pressing the paper feed button to launch printing.

If printing has been requested without idle mode setting of the printer, it may be necessary to power off and on again your washer and printer to reset them.

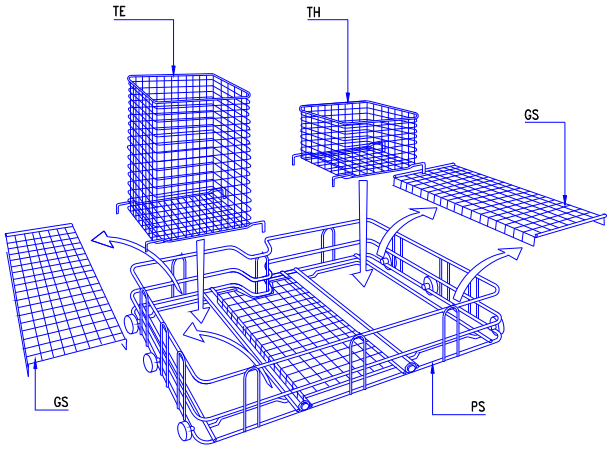
Do not hesitate to consult GETINGE LANCER for advice.

6. USING OF THE ACCESSORIES

IF THE LOADINGS TO BE HANDLED ARE SUPERIOR TO 25 KG THERE IS PLACE TO USE A HANDLING SYSTEM.

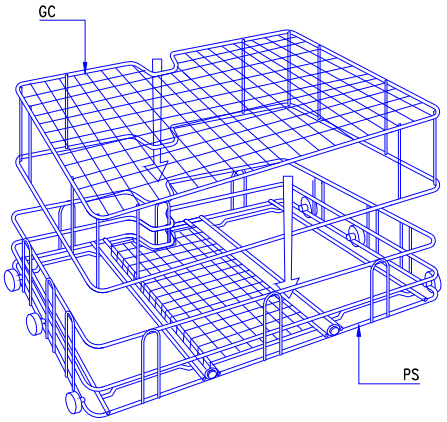
6.1 SOME EXAMPLES

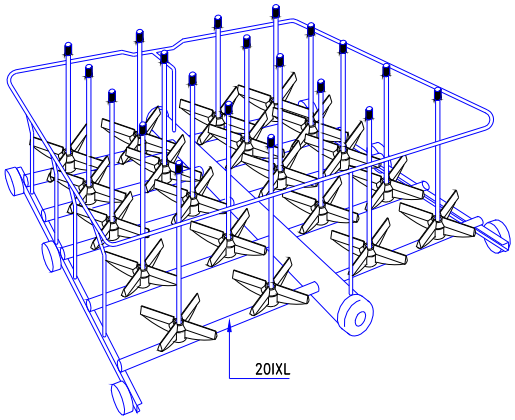
In order to wash items in "TE" or "TH" type baskets, place the baskets on the "PS" (basic rack) or "PSB" (basic rack with spray arm) after removing one or more "GS" (support grilles). Check that the basket is correctly fitted on the rods of the rack designed for that purpose. Reinstall the grilles for any washing operation that does not require the use of "TE" or "TH" type baskets.

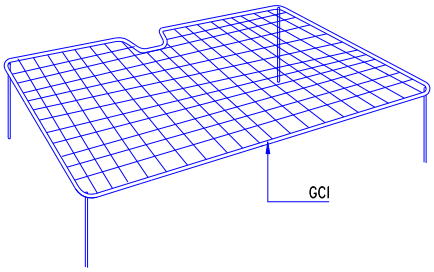


Note : The "PS" should only be positioned at the bottom level of the washer chamber where washing action is provided by the lower spray arm. The "PSB" can be positioned on any level.

It is extremely important that the items to be washed are prevented from moving in order to obtain correct cleaning and to avoid breakage of fragile items. Items that can be easily moved or knocked over when loaded on the "PS" or "PSB" rack should be secured in place. The "GC" hold down screen should be used for "PS" or "PSB" racks. The "GCI" hold down screen should be used for injector racks.

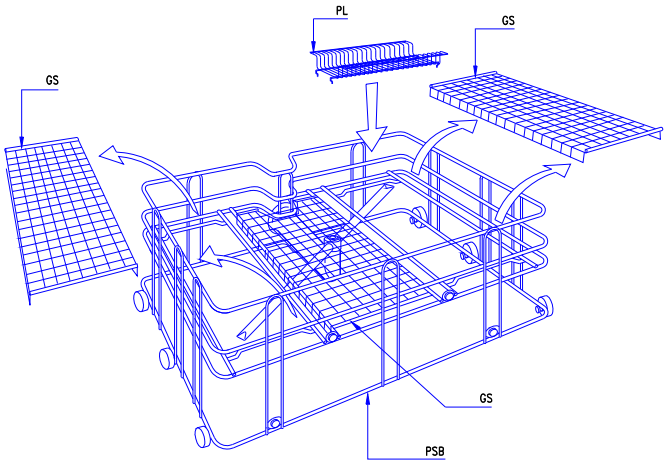






In the case of washing items with small diameter openings such as volumetric flasks, it is very important that the flow rate of the injectors used must be lower than the flow capacity of the flasks to be washed in order to avoid a gradual filling of the flasks during the washing cycle. If the diameter of the opening is too small to allow the water to escape from around the injector the mechanical action of the injector can be absorbed by the water contained in the glassware giving poor cleaning results. It is imperative to use baskets with injectors of proper diameter and, above all, to secure lightweight items with a "GC" or "GCI" hold down screen.

In order to wash items on a "PL" type basket (for cleaning slides), place the baskets on the "PS" (basic rack) or "PSB" (basic rack with spray arm) after removing one or more "GS" (support grilles). Check that the basket is correctly fitted on the rods of the rack designed for that purpose. Reinstall the grilles for any washing operation that does not require the use of "PL" type baskets.

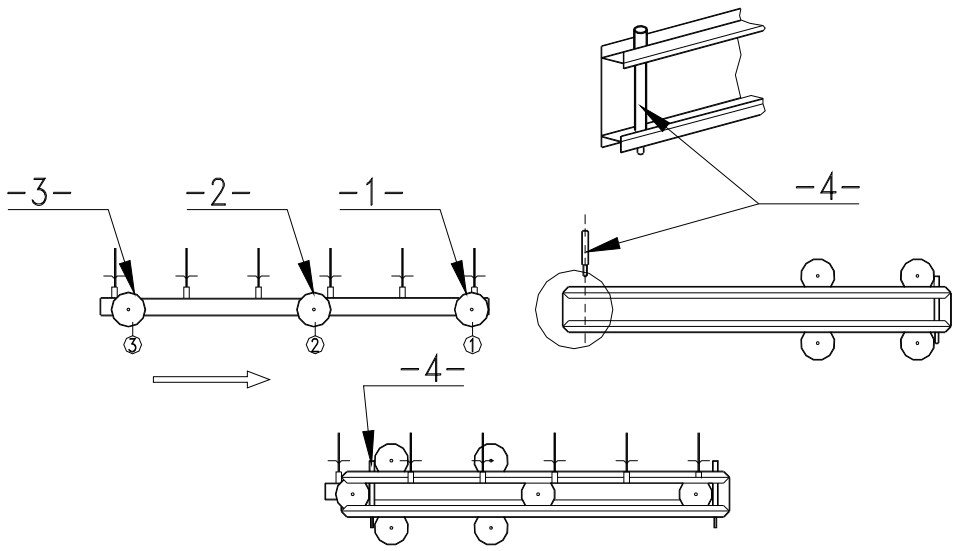


You should only use baskets that are suitable for the parts to be washed. When your washer is put into service, our technicians will give you useful advice on the best way to load the racks relative to the items to be washed.

Please feel free to contact GETINGE LANCER for advice or assistance.

When several racks are used simultaneously on the different levels, only one rack should be pulled out of chamber on the door and the runners at a time.

6.2 FITTING THE BASKETS



1-2-3	BASKET WHEELS
4	PIN

a) Pull the slide rails out of the chamber.

b) Remove the front pins.

c) Insert wheels 1 and 2 of the basket in the slide rails.

d) Fit the pins back in place between wheels 2 and 3.

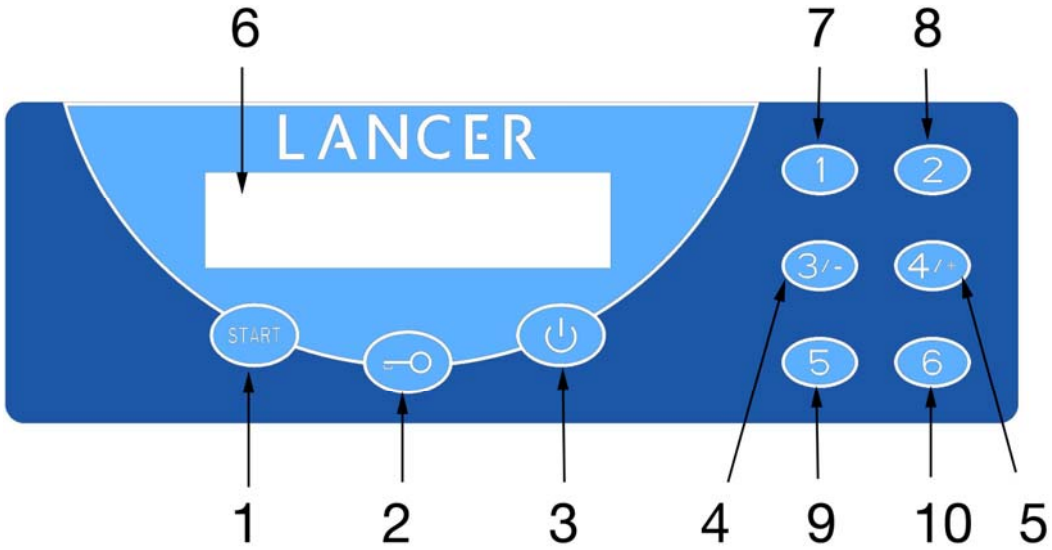
The choice of the baskets and racks is very important to efficient cleaning.
Please feel free to contact GETINGE LANCER for advice or assistance.

CHAPTER 3
WASHING CYCLE LAUNCHING

This chapter has been made to enable to function your washer.

You will get the launching procedure of a washing cycle and the manipulations to do at the start and the end of cycle.

1. DESCRIPTION AND BASIC FUNCTIONS OF KEYPAD



Legend :

1	START" BUTTON
2	ENTER BUTTON (FOR PROGRAMMING) / DOOR UNLOCK
3	WASHER POWER ON/OFF BUTTON
4	BUTTON 3 / "-" FUNCTION BUTTON
5	BUTTON 4 / "+" FUNCTION BUTTON
6	LIQUID CRYSTAL DISPLAY UNIT
7	BUTTON 1
8	BUTTON 2
9	BUTTON 5
10	BUTTON 6

2. LAUNCHING OF A CYCLE

BEFORE START, VERIFY THAT THE TAPS OF ENTRANCE OF WATER ARE OPENED.

2.1 SWITCHING ON

Push the key ⏻.

The display indicates the number of the last executed program and the type of washer-dryer.

```
Program n° 04
LANCER xxxxLX
```

If the previous cycle has been stopped before the end, the display indicates :

```
WARNING !!!
FAULTY CYCLE
```

Press START to return to the initial state.

2.2 CYCLES

The washer-dryer is delivered with 4 pre-established programs at the factory (see pages 51 to 56). Enter the number of the program to select the cycle, with the help of the keys of the numeric keypad.

PROGRAMME 01: VOLUMETRIC FLASKS

- Prewash with hot water with the detergent
- Wash with hot water with the detergent.
- Acid rinse with the neutralizant acid
- Rinse with demineralised water
- Final rinse at 50° with demineralised water
- Drying regulated

PROGRAMME 02: BACTERIOLOGY, VIROLOGY

- Prewash with hot water with the detergent
- Wash with hot water with the detergent.
- Acid rinse with the neutralizant acid
- Final rinse at 80° with demineralized water
- Drying max.
- Cooling

PROGRAMME 03: CHEMISTRY, BIOLOGY

- Prewash with hot water with the detergent
- Wash with hot water with the detergent.
- Acid rinse with the neutralizant acid
- Rinse with demineralized water
- Final rinse at 80° with demineralized water
- Drying max.
- Cooling

PROGRAMME 04: GELOSE

- Prewash with hot water with the detergent
- Wash with hot water with the detergent.
- Acid rinse with the neutralizant acid
- Rinse with demineralized water
- Final rinse at 80° with demineralized water
- Drying max.
- Cooling

NOTE: other programs can be pre-established depending on their necessities

2.3 LAUNCHING THE CYCLE

After choosing the washing cycle number,
push on (START) button and one of the following screens will be displayed :

a) the display indicates :
- the selected cycle number,
- the temperature in the chamber,
- the current function : "PREWASH 1".

The cycle will be carried out without requiring any further action.

b) If the chemical container(s) are empty, the display indicates :

It is necessary to fill or change the detergent or acid container to start the cycle.

c) in case of lack of salt (softener option), the display indicates :

It is essential to fill the salt pot located inside of the washer (see page 68).

d) If there is water in the basin following the interruption of the previous cycle or due to abnormal addition of water, the display indicates :

The washer will empty automatically and the cycle then proceeds normally.

e) If the temperature probe is defective, the display indicates :

F A U L T N ° 0 1
F A U L T P R O B E

The probe must be replaced prior to operation of the machine.

AT THE END OF THE CYCLE, LET COOL THE SUPPORTS, BASKETS, ACCESORIES AND WASHED OBJECTS BEFORE HANDLING THEM.

2.4 INFORMATION AVAILABLE DURING THE WASH CYCLE

BUTTON	DISPLAY	INDICATION	COMMENT
1	22 PREWASH1 Bas cuve : 37°C	Temperature at bottom of chamber	Instantaneous temperature read by the probe located in bottom of chamber
↳	03 WASH T° prog. : 70°C	Programmed temperature	Programmed temperature for phase in progress
2	03 LAVAGE T. phase : -02m42s	Remaining time of the phase	Decreasing time of a phase memorized starting from the same complete cycle already carried out
↳	03 LAVAGE T. phase : 00m53s	Past time of the phase	Past time of the phase in progress
↳	03 LAVAGE T. phase : 04m00s	Programmed time of the phase	Time programmed for the phase in progress
↳	03 WASH T. sequ. : 02m43s	Sequence duration	Past time of the sub phase (sequence) in progress
↳	03 WASH T.maxi: -1h01m28s	Maximum time remaining	Decreasing time of the cycle in progress
↳	03 WASH T.maxi: 0h04m18s	Past time	Past time of the cycle in progress
↳	03 WASH T.maxi: 1h05m32s	Maximum time	Maximum time remainder of the cycle memorized starting from the same complete cycle already carried out
3/-	03 WASH Filling	phase in progress	Name of the phase in progress
↳	03 WASH level waiting	Information on the phase in progress	Information on the progress of the phase
↳	03 WASH Chemistry Biology	Programme name	Name of the programme in progress
4/+	(no specific display)	Fast advance	Allows to skip a phase of the cycle (if selected ON in the configuration machine)
5	03 WASH R1->8 : 00000000	Relay status: 1 to 8	If test mode is activated, the display indicates status of the relays from 1 to 8
6	03 WASH R9->16 : 00000000	Relay status: 9 to 16	If test mode is activated, the display indicates status of the relays from 9 to 16

3. END OF CYCLE

3.1 OPENING OF THE DOORS

BURN RISK IF THE DOOR IS OPENED OVER 60°C.
AT THE END OF THE CYCLE, LET COOL THE SUPPORTS, BASKETS, ACCESORIES AND WASHED OBJECTS BEFORE HANDLING THEM.

If the chamber temperature is higher than 60°C, a prevention message appears.

E N D O F C Y C L E
H O T B A S I N > 6 0 °

The display indicates "END OF CYCLE".

E N D O F C Y C L E
O P E E N E D D O O R

Wait few seconds for unlocking device before opening the door.

3.2 OPENING

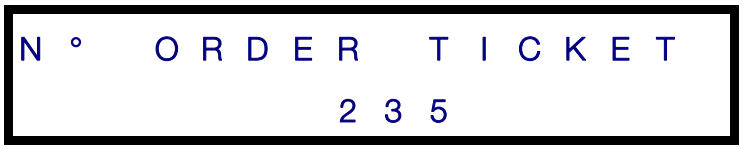
Proceed as described page *16.*

3.3 REPRINTING OF THE TICKET

For washers equipped with the printer (option), it is possible to print the ticket again in the following cases:

- need of a second ticket
- lack of paper (end of roll)
- poor printout

Press the keys and .



Each ticket is stored according to a specific ticket number.
This number (0 to 65000) is printed on ticket.
Choose with keys or , ticket number to be printed, (0 to 65000).
Validate with the key.

Wait for the complete impression of the ticket before launching a new washing cycle.

3.4 SWITCHING OFF

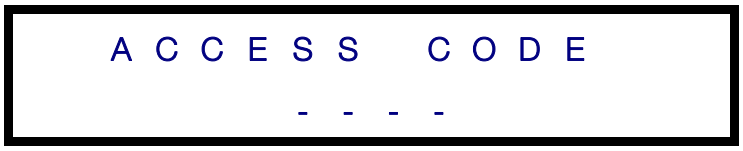
Press to switch off the washer.
Close the water valves.
Remove and clean the basin filters (see page 68).

4. ACCESS TO USER MENU

Switch on the appliance by pressing .

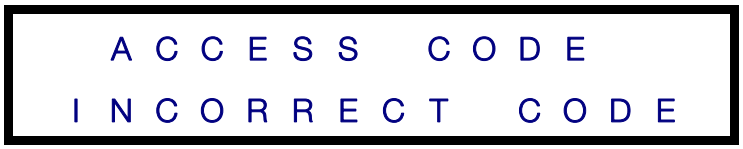
The display indicates the number of the last cycle performed.

Press and hold button for 3 seconds to validate.



Enter the access code LEVEL 1 / USER (3124)

If an incorrect code is entered, the following error message is displayed.



Press and hold button for 3 seconds to validate.

You must re-enter the correct access code.

Otherwise you access to user menu.

Note :

If the access code is not entered within 1 minute, the display unit returns to its initial state.

4.1 MODIFYING THE WASHING CYCLES

It is not recommend to set wash programs at maximum values for time and temperature as this will result in reduced equipment life and increased maintenance frequency of equipment.

If you wish to create a custom wash program, please refer to the factory default programs for examples of typical times and temperatures.
You may also contact your GETINGE LANCER representative for advice on creating wash programs.

After accessing to user menu, you must choose **PARAM. PROGRAMME** with (4/+) and (3/-) buttons to modify the washing cycle.
Accept with (🔑) button.

```
O P E R A T O R    M E N U
P r o g r a m   p a r a m
```

Choose the cycle number to modify with (1), (2), (3/-), (4/+), (5) and (6).
Accept with (🔑) button.

```
N °   o f   p r o g r a m
              1
```

If a cycle phase is programmed with a time of 00m00s that phase will be skipped when the wash cycle is executed.

Choose the time for prewash 1 : 0 to 30 mn 59 s.
Select the minutes with (4/+) and (3/-) buttons. Accept with (🔑) button.
Select the seconds with (4/+) and (3/-) buttons. Accept with (🔑) button.

```
0 1   P R E W A S H      1
R e c y c l i n g = 0 1 m 0 0 s
```

Choose water for PREWASH 1 phase:
- standard washer = cold water mains or hot water mains or purified water
- washer equipped with softener option = softened cold water or softened hot water or purified water
- washer equipped with softener option (no purified water available) = softened cold water or softened hot water

Select with 4/+ and 3/- buttons.

Accept with button.

Choose the temperature of pre-wash 1 (0 to 95° C) with 4/+ and 3/- buttons. Accept with button.

Choose the detergent intake time : 0 to 6 mn 59 s.
1 second will deliver approximately 5 ml of chemical.
Note : The volume of water in the wash chamber is approximately :
- 14 liters for 820 LX
- 13 liters for 910 LX
- 15 liters for 1300 LX

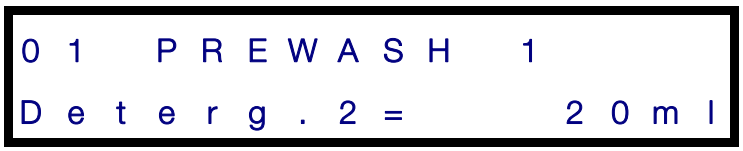
Select the minutes with 4/+ and 3/- buttons. Accept with button.

Select the seconds with 4/+ and 3/- buttons. Accept with button.

If washer is equipped with detergent 2 option, choose the detergent 2 intake time : 0 to 6 mn 59 s.
1 second will deliver approximately 5 ml of chemical.
Note : The volume of water in the wash chamber is approximately :
- 14 liters for 820 LX
- 13 liters for 910 LX
- 15 liters for 1300 LX

Select the minutes with 4/+ and 3/- buttons. Accept with button.

Select the seconds with 4/+ and 3/- buttons. Accept with button.



If washer is equipped with drain discharge neutralizing option, choose additive intake time : 0 to 6 mn 59 s.
1 second will deliver approximately 5 ml of chemical.
Note : The volume of water in the wash chamber is approximately :
- 14 liters for 820 LX
- 13 liters for 910 LX
- 15 liters for 1300 LX

Select the minutes with 4/+ and 3/- buttons. Accept with button.
Select the seconds with 4/+ and 3/- buttons. Accept with button.

```
01 PREWASH 1
Neutral. =      20 ml
```

Note : Set the PREWASH 2, PREWASH 3 and WASH functions in the same way.
Select the number of running water rinses 1 (0 to 9), with 4/+ and 3/- buttons. Accept with button.

```
01 RUNN. WATER 1
    Number = 01
```

Choose water for RUNNING WATER RINSE 1 phase:
- standard washer = cold water mains or hot water mains or purified water
- washer equipped with softener option = cold water mains or hot water mains or purified water
- washer equipped with softener option (no purified water available) = cold water mains or hot water mains

Select with 4/+ and 3/- buttons.
Accept with button.

```
01 RUNN. WATER 1
Cold Water mains
```

Select the duration of the acid rinse : 0 to 30 mn 59 s.
Select the minutes with 4/+ and 3/- buttons. Accept with button.
Select the seconds with 4/+ and 3/- buttons. Accept with button.
Accept with button

```
01 ACID RINSE
Recycling = 02m00s
```

Choose water for ACID RINSE phase:
- standard washer = cold water mains or hot water mains or purified water
- washer equipped with softener option = cold water mains or hot water mains or purified water
- washer equipped with softener option (no purified water available) = cold water mains or hot water mains

Select with (4/+) and (3/-) buttons.
Accept with (🔑) button.

Choose the acid rinse temperature : 0 to 95°C.
Select with (4/+) and (3/-) buttons.
Accept with (🔑) button.

Choose the acid intake time : 0 to 6 mn 59 s.
1 second will deliver approximately 5 ml of chemical.
Note : The volume of water in the wash chamber is approximately :
- 14 liters for 820 LX
- 13 liters for 910 LX
- 15 liters for 1300 LX

Select the minutes with (4/+) and (3/-) buttons. Accept with (🔑) button.
Select the seconds with (4/+) and (3/-) buttons. Accept with (🔑) button.

If washer is equipped with drain discharge neutralizing option, choose additive intake time : 0 to 6 mn 59 s.
1 second will deliver approximately 5 ml of chemical.
Note : The volume of water in the wash chamber is approximately :
- 14 liters for 820 LX
- 13 liters for 910 LX
- 15 liters for 1300 LX

Select the minutes with (4/+) and (3/-) buttons. Accept with (🔑) button.
Select the seconds with (4/+) and (3/-) buttons. Accept with (🔑) button.

Select the number of running water rinses 2 (0 to 9), with 4/+ and 3/- buttons. Accept with button.

Choose water for RUNNING WATER RINSE 2 phase:
- standard washer = cold water mains or hot water mains or purified water
- washer equipped with softener option = cold water mains or hot water mains or purified water
- washer equipped with softener option (no purified water available) = cold water mains or hot water mains

Select with 4/+ and 3/- buttons.

Accept with button.

Select the duration of cold demin.(*) 1 : 0 to 30 mn 59 s.
Select the minutes with 4/+ and 3/- buttons. Accept with button.
Select the seconds with 4/+ and 3/- buttons. Accept with button.
* *Demin. = demineralized, distilled or osmosis-treated water*

Choose water for COLD DEMI RINSE 1 phase:
- standard washer = purified water
- washer equipped with softener option = purified water
- washer equipped with softener option (no purified water available) = softened cold water or softened hot water

Select with 4/+ and 3/- buttons. Accept with button.

Note : Set the COLD DEMIN.2, COLD DEMIN.3 and COLD DEMIN.4 functions in the same way.

Select the duration of the hot demin.* rinse : 0 to 30 mn 59 s.
Select the minutes with 4/+ and 3/- buttons. Accept with button.
Select the seconds with 4/+ and 3/- buttons. Accept with button.

```
01  HOT  DEMI
Recycling = 01m00s
```

Choose water for HOT DEMI RINSE phase:
- standard washer = purified water
- washer equipped with softener option = purified water
- washer equipped with softener option (no purified water available) = softened cold water or softened hot water

Select with 4/+ and 3/- buttons. Accept with button.

```
01  HOT  DEMI
  Purified water
```

Select the temperature of the hot demin.* rinse (0 to 95°C) with 4/+ and 3/- buttons.
Accept with button.

```
01  HOT  DEMI
Temp.          = 75°
```

Accept with button.

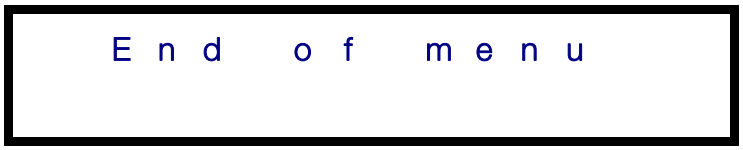
```
01  HOT  DEMI
Lubri.     =     43ml
```

Select the duration of drying : 0 to 90 mn.
2 minutes cooling is automatically included to this drying time (for example : 20 minutes duration = 18mn drying + 2mn cooling)
Select the minutes with 4/+ and 3/- buttons. Accept with button.
Select the seconds with 4/+ and 3/- buttons. Accept with button.

```
01    DRYING
Time       =  01m00s
```

Choose the drying mode : Maxi (~85°C) or adjusted (~60°C).
Select with 4/+ and 3/- buttons. Accept with button.

Select the duration of cooling : 0 to 30 mn 59 s.
Select the minutes with 4/+ and 3/- buttons. Accept with button.
Select the seconds with 4/+ and 3/- buttons. Accept with button.



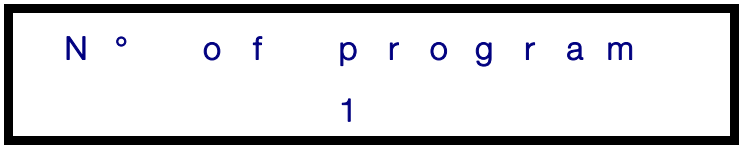
The display unit returns to user menu.

4.2 SEQUENCES READING OF ONE WASHING CYCLE

After accessing to user menu, you must choose **READING PROGRAM.** with (4/+) and (3/-) buttons to read the washing cycle.

Accept with (🔑) button.

Choose the cycle number to read with (1), (2), (3/-), (4/+), (5) and (6). Accept with (🔑) button.



The sequencing of all the functions in the cycle is displayed by pressing on (🔑) button repeatedly.

At the end of cycle, the display unit returns to user menu.

4.3 DOSING PUMP PRIMING

Once enter user menu, you must choose "**Pump Priming"** sub-menu using buttons 4/+ and 3/-.

```
OPERATOR MENU
  Pump priming
```

Accept with button.

```
        Acid
Pump      ->      OFF
```

Choose with button status **"ON"** or **"OFF"** of the dosing pump.
Status is "ON" during 1mn for pump flow-rate checking.

```
        Filling
  In Progress...
```

Display indicates automatic basin filling with water to dilute the cleaning chemical.

```
  ACID    =  58s
  PUMP    ->  ON
```

Status is "ON" during 1mn for pump flow-rate checking.

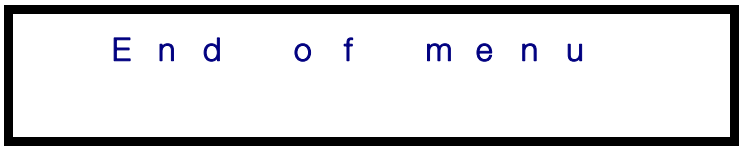
```
       Emptying
  In Progress...
```

Display indicates automatic basin emptying.
To select detergent pump output, press on button 4/+ .

```
       Detergent
Pump      ->      OFF
```

Proceed in the same way for lubricant and detergent 2 pumps priming.

Press button

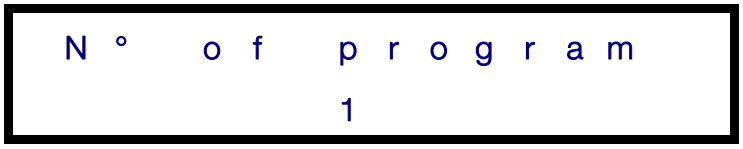


4.4 NAME CHOICE OF ONE WASHING CYCLE

In addition to being identified by its number (01, 02, 03, etc.), each programmed cycle can be given a "NAME" (examples: CHEMISTRY, BACTERIO, INSTRUMENTS, ANAESTHETIC). A maximum of 16 characters is available.

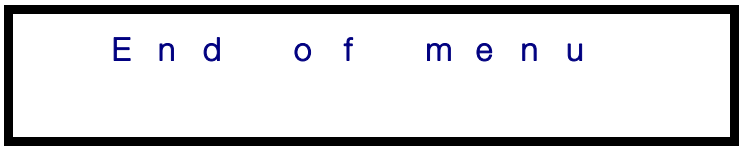
After accessing to user menu, you must choose NAME PROGRAM. with 4/+ and 3/- buttons to define the name of a washing cycle.
Accept with button.

Choose the cycle number to modify with 1, 2, 3/-, 4/+, 5 and 6.
Accept with button.



The characters selection is got with 4/+ and 3/- buttons.
A press on button, enables to accept the chosen character then to pass on next space.
If the chosen name has less than 16 characters, fill-in blank space by pressing on button.

When you are on the 16th character pressing button enable to record the programme's name and to return to the user's menu.

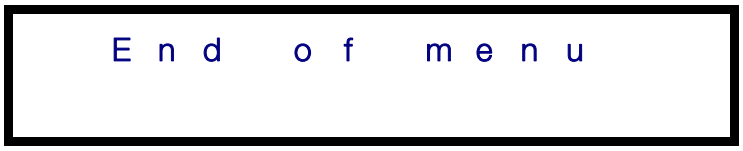


4.5 THE CHOICE OF MACHINE NAME

After accessing to user menu, you must choose **MACHINE NAME** with 4/+ and 3/- buttons to define the name of the machine.
Accept with button.

The characters selection is got with 4/+ and 3/- buttons.
Press button to accept the chosen character and to pass on next space.
If the chosen name has less of 16 characters fill-in empty blanks by pressing button.

The program name is recorded in memory after the 16th character is entered by pressing the button and to return to the user's menu.

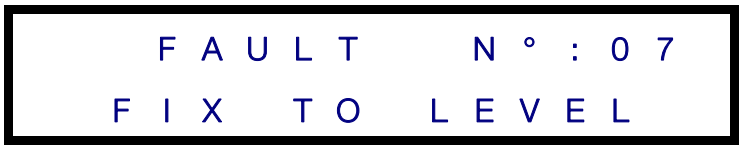


4.6 READING OF CYCLE FAULTS

After accessing to user menu, you must choose **FAULT CYCLES** with (4/+) and (3/-) buttons to read the 5 last faults.

Accept with (🔑) button.

Example :



Change the Ptr value with (4/+) and (3/-) buttons. You could like this read the N° and the designation the alarm previously tripped. If you select the value “0” you got the last tripped alarm, if you select the value “-1” you got the last before alarm, etc…

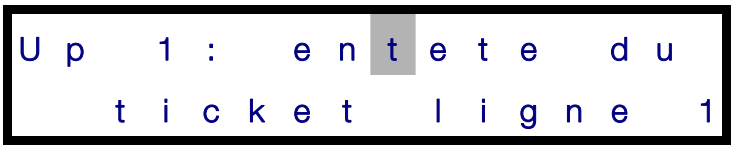
If you press (START) button, you will get any additional information about the alarm tripping.

To quit this menu, press (🔑) button.

4.7 PRINTER PARAMETERS (OPTION)

This menu allows to customize 2 heading lines and 3 foot lines on the ticket (if printer option).

Accept with button.



First character is flashing on top of display.

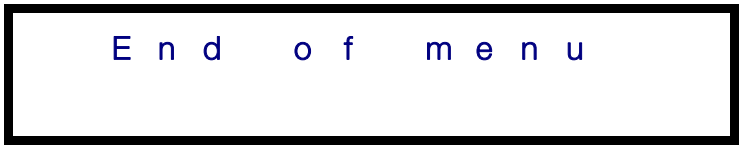
Characters are selected with the 4/+ and 3/- keys or numeric keypad.

Each character must be validated with the key.

When the ticket line is customized, complete the line of characters with successive pressings on key.

Press on key to go to next heading line then to foot lines.

Accept with button.



The display returns to the user's menu.

4.8 SAMPLING PARAMETER SETTING

Not applicable on 820 LX

After accessing the user menu, you must choose **SAMPLING** with 4/+ and 3/- buttons to take samples inside the chamber at different steps of the wash cycle.*(only if your washer is equipped with an optional sampling tap)*

Sampling procedure has to be selected before any cycle start.

```
O P E R A T O R   M E N U
S A M P L I N G
```

Validate with the key.

```
M U L T I S T E R   S A M P L E
N O
```

Choose with 4/+ or 3/- key: YES or NO
If SAMPLING is set to YES, the wash cycle stops at the end of each re-circulation phase so that a sample of the wash solution can be taken with the tap provided for this purpose on the washer.
Validate with key.

```
P R E L V . R I N C . F I N A L
N O
```

Choose with 4/+ or 3/- key: YES or NO
If SAMPLING is set to YES, provides during the final rinse to open the door to take a sample with the tap provided for this purpose on the washer.
Validate with the key.

```
E n d   o f   m e n u
```

The display returns to the user menu.

4.9 RETURN TO THE INITIAL STATE

To quit the user menu, you must, choose **END OF SETTING ?** with 4/+ and 3/- buttons.
Accept with button.

5. TABLE OF FACTORY-PROGRAMMED CYCLES

5.1 LABELLING OF WATERS ACCORDING TO STANDARD AND OPTIONS

STANDARD WASHER	
Cold water mains	CWM
Hot water mains	HWM
Purified water	PW

WASHER EQUIPED WITH SOFTENER OPTION	
Cold water mains	CWM
Hot water mains	HWM
Purified water	PW
Soft cold water	SCW
Soft hot water	SHW

WASHER EQUIPED WITH SOFTENER OPTION (NO PURIFIED WATER AVAILABLE)	
Cold water mains	CWM
Hot water mains	HWM
Soft cold water	SCW
Soft hot water	SHW

5.2 TABLE OF FACTORY-PROGRAMMED CYCLES STANDARD – 820 LX

Water consumption estimated per phase (depends on the baskets/racks used): 14 liters.
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

		Volumetric Flasks	Bacterio. Virology	Chemistry Biology	Agarose Gel
SEQUENCES	**POSSIBILITIES**	**PROG. 01**	**PROG. 02**	**PROG. 03**	**PROG. 04**
PREWASH TIME 1	0 to 30 mn	1	2	2	2
FILLING	CWM / HWM / PW	HWM	HWM	HWM	HWM
PREWASH 1 TEMPERATURE	0 to 95 °C	0	0	0	90
PREWASH 1 DETERGENT	0 to 360 s	12	12	12	30
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s	0	0	0	0
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s	6	6	6	15
PREWASH TIME 2	0 to 30 mn	0	0	0	1
FILLING	CWM / HWM / PW	/	/	/	HWM
PREWASH 2 TEMPERATURE	0 to 95 °C	/	/	/	0
PREWASH 2 DETERGENT	0 to 360 s	/	/	/	0
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s	/	/	/	0
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s	/	/	/	0
PREWASH TIME 3	0 to 30 mn	0	0	0	0
FILLING	CWM / HWM / PW	/	/	/	/
PREWASH 3 TEMPERATURE	0 to 95 °C	/	/	/	/
PREWASH 3 DETERGENT	0 to 360 s	/	/	/	/
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s	/	/	/	/
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s	/	/	/	/
WASH TIME	0 to 30 mn	4	4	2	2
FILLING	CWM / HWM / PW	HWM	HWM	HWM	HWM
WASH TEMPERATURE	0 to 95 °C	50	85	70	90
WASH DETERGENT	0 to 360 s	30	30	30	36
Option : WASH DETERGENT 2	0 to 360 s	0	0	0	0
Option : WASH NEUTRALIZATION	0 to 360 s	15	15	15	18
RUNNING WATER RINSE 1	0 to 9	1	1	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TIME	0 to 30 mn	2	2	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TEMPERATURE	0 to 95 °C	0	0	0	0
NEUTRALIZING ACID	0 to 360 s	30	30	30	30
Option : ACID RINSE NEUTRALIZATION	0 to 360 s	60	60	60	60
RUNNING WATER RINSE 2	0 to 9	1	2	1	1
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
COLD DEMI. TIME 1	0 to 30 mn	1	0	1	1
FILLING	PW	PW	/	PW	PW
COLD DEMI. TIME 2	0 to 30 mn	0	0	1	0
FILLING	PW	/	/	PW	/
COLD DEMI. TIME 3	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
COLD DEMI. TIME 4	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
HOT DEMI. TIME	0 to 30 mn	1	1	1	1
FILLING	PW	PW	PW	PW	PW
HOT DEMI. TEMPERATURE	0 to 95 °C	50	80	80	80
OPTION : LUBRICANT	0 to 360s	0	0	0	0
DRYING TIME	0 to 90 mn	10	25	25	25
DRYING	Maxi / Adjusted	Adjust.	Maxi	Maxi	Maxi
COOLING	0 to 30 mn	0	5	5	5

5.3 TABLE OF FACTORY-PROGRAMMED CYCLES SOFTENER OPTION –820 LX

Water consumption estimated per phase (depends on the baskets/racks used): 14 liters.
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

SEQUENCES	POSSIBILITIES	Volumetric Flasks PROG. 01	Bacterio. Virology PROG. 02	Chemistry Biology PROG. 03	Agarose Gel PROG. 04
PREWASH TIME 1	0 to 30 mn	1	2	2	2
FILLING	SCW / SHW / PW	SHW	SHW	SHW	SHW
PREWASH 1 TEMPERATURE	0 to 95 °C	0	0	0	90
PREWASH 1 DETERGENT	0 to 360 s	12	12	12	30
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s	0	0	0	0
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s	6	6	6	15
PREWASH TIME 2	0 to 30 mn	0	0	0	1
FILLING	SCW / SHW / PW	/	/	/	SHW
PREWASH 2 TEMPERATURE	0 to 95 °C	/	/	/	0
PREWASH 2 DETERGENT	0 to 360 s	/	/	/	0
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s	/	/	/	0
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s	/	/	/	0
PREWASH TIME 3	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW / PW	/	/	/	/
PREWASH 3 TEMPERATURE	0 to 95 °C	/	/	/	/
PREWASH 3 DETERGENT	0 to 360 s	/	/	/	/
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s	/	/	/	/
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s	/	/	/	/
WASH TIME	0 to 30 mn	4	4	2	2
FILLING	SCW / SHW / PW	SHW	SHW	SHW	SHW
WASH TEMPERATURE	0 to 95 °C	50	85	70	90
WASH DETERGENT	0 to 360 s	30	30	30	36
Option : WASH DETERGENT 2	0 to 360 s	0	0	0	0
Option : WASH NEUTRALIZATION	0 to 360 s	15	15	15	18
RUNNING WATER RINSE 1	0 to 9	1	1	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TIME	0 to 30 mn	2	2	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TEMPERATURE	0 to 95 °C	0	0	0	0
NEUTRALIZING ACID	0 to 360 s	30	30	30	30
Option : ACID RINSE NEUTRALIZATION	0 to 360 s	60	60	60	60
RUNNING WATER RINSE 2	0 to 9	1	2	1	1
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
COLD DEMI. TIME 1	0 to 30 mn	1	0	1	1
FILLING	PW	PW	/	PW	PW
COLD DEMI. TIME 2	0 to 30 mn	0	0	1	0
FILLING	PW	/	/	PW	/
COLD DEMI. TIME 3	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
COLD DEMI. TIME 4	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
HOT DEMI. TIME	0 to 30 mn	1	1	1	1
FILLING	PW	PW	PW	PW	PW
HOT DEMI. TEMPERATURE	0 to 95 °C	50	80	80	80
OPTION : LUBRICANT	0 to 360s	0	0	0	0
DRYING TIME	0 to 90 mn	10	25	25	25
DRYING	Maxi / Adjusted	Adjust.	Maxi	Maxi	Maxi
COOLING	0 to 30 mn	0	5	5	5

5.4 TABLE OF FACTORY-PROGRAMMED CYCLES SOFTENER OPTION (NO PURIFIED WATER AVAILABLE) – 820 LX

Water consumption estimated per phase (depends on the baskets/racks used): 14 liters.
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

		Volumetric Flasks	Bacterio. Virology	Chemistry Biology	Agarose Gel
SEQUENCES	**POSSIBILITIES**	**PROG. 01**	**PROG. 02**	**PROG. 03**	**PROG. 04**
PREWASH TIME 1	0 to 30 mn	1	2	2	2
FILLING	SCW / SHW	SHW	SHW	SHW	SHW
PREWASH 1 TEMPERATURE	0 to 95 °C	0	0	0	90
PREWASH 1 DETERGENT	0 to 360 s	12	12	12	30
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s	0	0	0	0
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s	6	6	6	15
PREWASH TIME 2	0 to 30 mn	0	0	0	1
FILLING	SCW / SHW	/	/	/	SHW
PREWASH 2 TEMPERATURE	0 to 95 °C	/	/	/	0
PREWASH 2 DETERGENT	0 to 360 s	/	/	/	0
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s	/	/	/	0
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s	/	/	/	0
PREWASH TIME 3	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW	/	/	/	/
PREWASH 3 TEMPERATURE	0 to 95 °C	/	/	/	/
PREWASH 3 DETERGENT	0 to 360 s	/	/	/	/
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s	/	/	/	/
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s	/	/	/	/
WASH TIME	0 to 30 mn	4	4	2	2
FILLING	SCW / SHW	SHW	SHW	SHW	SHW
WASH TEMPERATURE	0 to 95 °C	50	85	70	90
WASH DETERGENT	0 to 360 s	30	30	30	36
Option : WASH DETERGENT 2	0 to 360 s	0	0	0	0
Option : WASH NEUTRALIZATION	0 to 360 s	15	15	15	18
RUNNING WATER RINSE 1	0 to 9	1	1	2	2
FILLING	CWM / HWM	CWM	CWM	CWM	CWM
ACID RINSE TIME	0 to 30 mn	2	2	2	2
FILLING	CWM / HWM	CWM	CWM	CWM	CWM
ACID RINSE TEMPERATURE	0 to 95 °C	0	0	0	0
NEUTRALIZING ACID	0 to 360 s	30	30	30	30
Option : ACID RINSE NEUTRALIZATION	0 to 360 s	60	60	60	60
RUNNING WATER RINSE 2	0 to 9	1	2	1	1
FILLING	CWM / HWM	CWM	CWM	CWM	CWM
COLD DEMI. TIME 1	0 to 30 mn	1	0	1	1
FILLING	SCW / SHW	SCW	/	SCW	SCW
COLD DEMI. TIME 2	0 to 30 mn	0	0	1	0
FILLING	SCW / SHW	/	/	SCW	/
COLD DEMI. TIME 3	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW	/	/	/	/
COLD DEMI. TIME 4	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW	/	/	/	/
HOT DEMI. TIME	0 to 30 mn	1	1	1	1
FILLING	SCW / SHW	SHW	SHW	SHW	SHW
HOT DEMI. TEMPERATURE	0 to 95 °C	50	80	80	80
OPTION : LUBRICANT	0 to 360s	0	0	0	0
DRYING TIME	0 to 90 mn	10	25	25	25
DRYING	Maxi / Adjusted	Adjust.	Maxi	Maxi	Maxi
COOLING	0 to 30 mn	0	5	5	5

5.5 TABLE OF FACTORY-PROGRAMMED CYCLES STANDARD – 910 LX

Water consumption estimated per phase (depends on the baskets/racks used): 13 liters.
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

SEQUENCES	POSSIBILITIES	Volumetric Flasks PROG. 01	Bacterio. Virology PROG. 02	Chemistry Biology PROG. 03	Agarose Gel PROG. 04
PREWASH TIME 1	0 to 30 mn	1	2	2	2
FILLING	CWM / HWM / PW	HWM	HWM	HWM	HWM
PREWASH 1 TEMPERATURE	0 to 95 °C	0	0	0	90
PREWASH 1 DETERGENT	0 to 360 s	6	6	6	22
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s	0	0	0	0
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s	3	3	3	11
PREWASH TIME 2	0 to 30 mn	0	0	0	1
FILLING	CWM / HWM / PW	/	/	/	HWM
PREWASH 2 TEMPERATURE	0 to 95 °C	/	/	/	0
PREWASH 2 DETERGENT	0 to 360 s	/	/	/	0
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s	/	/	/	0
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s	/	/	/	0
PREWASH TIME 3	0 to 30 mn	0	0	0	0
FILLING	CWM / HWM / PW	/	/	/	/
PREWASH 3 TEMPERATURE	0 to 95 °C	/	/	/	/
PREWASH 3 DETERGENT	0 to 360 s	/	/	/	/
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s	/	/	/	/
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s	/	/	/	/
WASH TIME	0 to 30 mn	4	4	2	2
FILLING	CWM / HWM / PW	HWM	HWM	HWM	HWM
WASH TEMPERATURE	0 to 95 °C	50	85	70	90
WASH DETERGENT	0 to 360 s	22	22	22	27
Option : WASH DETERGENT 2	0 to 360 s	0	0	0	0
Option : WASH NEUTRALIZATION	0 to 360 s	11	11	11	14
RUNNING WATER RINSE 1	0 to 9	1	1	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TIME	0 to 30 mn	2	2	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TEMPERATURE	0 to 95 °C	0	0	0	0
NEUTRALIZING ACID	0 to 360 s	22	22	22	22
Option : ACID RINSE NEUTRALIZATION	0 to 360 s	44	44	44	44
RUNNING WATER RINSE 2	0 to 9	1	2	1	1
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
COLD DEMI. TIME 1	0 to 30 mn	1	0	1	1
FILLING	PW	PW	/	PW	PW
COLD DEMI. TIME 2	0 to 30 mn	0	0	1	0
FILLING	PW	/	/	PW	/
COLD DEMI. TIME 3	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
COLD DEMI. TIME 4	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
HOT DEMI. TIME	0 to 30 mn	1	1	1	1
FILLING	PW	PW	PW	PW	PW
HOT DEMI. TEMPERATURE	0 to 95 °C	50	80	80	80
OPTION : LUBRICANT	0 to 360s	0	0	0	0
DRYING TIME	0 to 90 mn	10	25	25	25
DRYING	Maxi / Adjusted	Adjust.	Maxi	Maxi	Maxi
COOLING	0 to 30 mn	0	5	5	5

5.6 TABLE OF FACTORY-PROGRAMMED CYCLES SOFTENER OPTION – 910 LX

Water consumption estimated per phase (depends on the baskets/racks used): 13 liters.
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

		Volumetric Flasks	Bacterio. Virology	Chemistry Biology	Agarose Gel
SEQUENCES	**POSSIBILITIES**	**PROG. 01**	**PROG. 02**	**PROG. 03**	**PROG. 04**
PREWASH TIME 1	0 to 30 mn	1	2	2	2
FILLING	SCW / SHW / PW	SHW	SHW	SHW	SHW
PREWASH 1 TEMPERATURE	0 to 95 °C	0	0	0	90
PREWASH 1 DETERGENT	0 to 360 s	6	6	6	22
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s	0	0	0	0
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s	3	3	3	11
PREWASH TIME 2	0 to 30 mn	0	0	0	1
FILLING	SCW / SHW / PW	/	/	/	SHW
PREWASH 2 TEMPERATURE	0 to 95 °C	/	/	/	0
PREWASH 2 DETERGENT	0 to 360 s	/	/	/	0
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s	/	/	/	0
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s	/	/	/	0
PREWASH TIME 3	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW / PW	/	/	/	/
PREWASH 3 TEMPERATURE	0 to 95 °C	/	/	/	/
PREWASH 3 DETERGENT	0 to 360 s	/	/	/	/
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s	/	/	/	/
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s	/	/	/	/
WASH TIME	0 to 30 mn	4	4	2	2
FILLING	SCW / SHW / PW	SHW	SHW	SHW	SHW
WASH TEMPERATURE	0 to 95 °C	50	85	70	90
WASH DETERGENT	0 to 360 s	22	22	22	27
Option : WASH DETERGENT 2	0 to 360 s	0	0	0	0
Option : WASH NEUTRALIZATION	0 to 360 s	11	11	11	14
RUNNING WATER RINSE 1	0 to 9	1	1	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TIME	0 to 30 mn	2	2	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TEMPERATURE	0 to 95 °C	0	0	0	0
NEUTRALIZING ACID	0 to 360 s	22	22	22	22
Option : ACID RINSE NEUTRALIZATION	0 to 360 s	44	44	44	44
RUNNING WATER RINSE 2	0 to 9	1	2	1	1
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
COLD DEMI. TIME 1	0 to 30 mn	1	0	1	1
FILLING	PW	PW	/	PW	PW
COLD DEMI. TIME 2	0 to 30 mn	0	0	1	0
FILLING	PW	/	/	PW	/
COLD DEMI. TIME 3	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
COLD DEMI. TIME 4	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
HOT DEMI. TIME	0 to 30 mn	1	1	1	1
FILLING	PW	PW	PW	PW	PW
HOT DEMI. TEMPERATURE	0 to 95 °C	50	80	80	80
OPTION : LUBRICANT	0 to 360s	0	0	0	0
DRYING TIME	0 to 90 mn	10	25	25	25
DRYING	Maxi / Adjusted	Adjust.	Maxi	Maxi	Maxi
COOLING	0 to 30 mn	0	5	5	5

5.7 TABLE OF FACTORY-PROGRAMMED CYCLES SOFTENER OPTION (NO PURIFIED WATER AVAILABLE) – 910 LX

Water consumption estimated per phase (depends on the baskets/racks used): 13 liters.
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

		Volumetric Flasks	Bacterio. Virology	Chemistry Biology	Agarose Gel
SEQUENCES	**POSSIBILITIES**	**PROG. 01**	**PROG. 02**	**PROG. 03**	**PROG. 04**
PREWASH TIME 1	0 to 30 mn	1	2	2	2
FILLING	SCW / SHW	SHW	SHW	SHW	SHW
PREWASH 1 TEMPERATURE	0 to 95 °C	0	0	0	90
PREWASH 1 DETERGENT	0 to 360 s	6	6	6	22
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s	0	0	0	0
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s	3	3	3	11
PREWASH TIME 2	0 to 30 mn	0	0	0	1
FILLING	SCW / SHW	/	/	/	SHW
PREWASH 2 TEMPERATURE	0 to 95 °C	/	/	/	0
PREWASH 2 DETERGENT	0 to 360 s	/	/	/	0
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s	/	/	/	0
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s	/	/	/	0
PREWASH TIME 3	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW	/	/	/	/
PREWASH 3 TEMPERATURE	0 to 95 °C	/	/	/	/
PREWASH 3 DETERGENT	0 to 360 s	/	/	/	/
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s	/	/	/	/
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s	/	/	/	/
WASH TIME	0 to 30 mn	4	4	2	2
FILLING	SCW / SHW	SHW	SHW	SHW	SHW
WASH TEMPERATURE	0 to 95 °C	50	85	70	90
WASH DETERGENT	0 to 360 s	22	22	22	27
Option : WASH DETERGENT 2	0 to 360 s	0	0	0	0
Option : WASH NEUTRALIZATION	0 to 360 s	11	11	11	14
RUNNING WATER RINSE 1	0 to 9	1	1	2	2
FILLING	CWM / HWM	CWM	CWM	CWM	CWM
ACID RINSE TIME	0 to 30 mn	2	2	2	2
FILLING	CWM / HWM	CWM	CWM	CWM	CWM
ACID RINSE TEMPERATURE	0 to 95 °C	0	0	0	0
NEUTRALIZING ACID	0 to 360 s	22	22	22	22
Option : ACID RINSE NEUTRALIZATION	0 to 360 s	44	44	44	44
RUNNING WATER RINSE 2	0 to 9	1	2	1	1
FILLING	CWM / HWM	CWM	CWM	CWM	CWM
COLD DEMI. TIME 1	0 to 30 mn	1	0	1	1
FILLING	SCW / SHW	SCW	SCW	SCW	SCW
COLD DEMI. TIME 2	0 to 30 mn	0	0	1	0
FILLING	SCW / SHW	/	/	SCW	/
COLD DEMI. TIME 3	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW	/	/	/	/
COLD DEMI. TIME 4	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW	/	/	/	/
HOT DEMI. TIME	0 to 30 mn	1	1	1	1
FILLING	SCW / SHW	SHW	SHW	SHW	SHW
HOT DEMI. TEMPERATURE	0 to 95 °C	50	80	80	80
OPTION : LUBRICANT	0 to 360s	0	0	0	0
DRYING TIME	0 to 90 mn	10	25	25	25
DRYING	Maxi / Adjusted	Adjust.	Maxi	Maxi	Maxi
COOLING	0 to 30 mn	0	5	5	5

5.8 TABLE OF FACTORY-PROGRAMMED CYCLES STANDARD – 1300 LX

Water consumption estimated per phase (depends on the baskets/racks used): 15 liters.
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

		Volumetric Flasks	Bacterio. Virology	Chemistry Biology	Agarose Gel
SEQUENCES	**POSSIBILITIES**	**PROG. 01**	**PROG. 02**	**PROG. 03**	**PROG. 04**
PREWASH TIME 1	0 to 30 mn	1	2	2	2
FILLING	CWM / HWM / PW	HWM	HWM	HWM	HWM
PREWASH 1 TEMPERATURE	0 to 95 °C	0	0	0	90
PREWASH 1 DETERGENT	0 to 360 s	7	7	7	26
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s	0	0	0	0
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s	4	4	4	13
PREWASH TIME 2	0 to 30 mn	0	0	0	1
FILLING	CWM / HWM / PW	/	/	/	HWM
PREWASH 2 TEMPERATURE	0 to 95 °C	/	/	/	0
PREWASH 2 DETERGENT	0 to 360 s	/	/	/	0
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s	/	/	/	0
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s	/	/	/	0
PREWASH TIME 3	0 to 30 mn	0	0	0	0
FILLING	CWM / HWM / PW	/	/	/	/
PREWASH 3 TEMPERATURE	0 to 95 °C	/	/	/	/
PREWASH 3 DETERGENT	0 to 360 s	/	/	/	/
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s	/	/	/	/
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s	/	/	/	/
WASH TIME	0 to 30 mn	4	4	2	2
FILLING	CWM / HWM / PW	HWM	HWM	HWM	HWM
WASH TEMPERATURE	0 to 95 °C	50	85	70	90
WASH DETERGENT	0 to 360 s	26	26	26	32
Option : WASH DETERGENT 2	0 to 360 s	0	0	0	0
Option : WASH NEUTRALIZATION	0 to 360 s	13	13	13	16
RUNNING WATER RINSE 1	0 to 9	1	1	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TIME	0 to 30 mn	2	2	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TEMPERATURE	0 to 95 °C	0	0	0	0
NEUTRALIZING ACID	0 to 360 s	26	26	26	26
Option : ACID RINSE NEUTRALIZATION	0 to 360 s	52	52	52	52
RUNNING WATER RINSE 2	0 to 9	1	2	1	1
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
COLD DEMI. TIME 1	0 to 30 mn	1	0	1	1
FILLING	PW	PW	/	PW	PW
COLD DEMI. TIME 2	0 to 30 mn	0	0	1	0
FILLING	PW	/	/	PW	/
COLD DEMI. TIME 3	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
COLD DEMI. TIME 4	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
HOT DEMI. TIME	0 to 30 mn	1	1	1	1
FILLING	PW	PW	PW	PW	PW
HOT DEMI. TEMPERATURE	0 to 95 °C	50	80	80	80
OPTION : LUBRICANT	0 to 360s	0	0	0	0
DRYING TIME	0 to 90 mn	10	25	25	25
DRYING	Maxi / Adjusted	Adjust.	Maxi	Maxi	Maxi
COOLING	0 to 30 mn	0	5	5	5

5.9 TABLE OF FACTORY-PROGRAMMED CYCLES SOFTENER OPTION – 1300 LX

Water consumption estimated per phase (depends on the baskets/racks used): 15 liters.
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

SEQUENCES	POSSIBILITIES	Volumetric Flasks PROG. 01	Bacterio. Virology PROG. 02	Chemistry Biology PROG. 03	Agarose Gel PROG. 04
PREWASH TIME 1	0 to 30 mn	1	2	2	2
FILLING	SCW / SHW / PW	SHW	SHW	SHW	SHW
PREWASH 1 TEMPERATURE	0 to 95 °C	0	0	0	90
PREWASH 1 DETERGENT	0 to 360 s	7	7	7	26
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s	0	0	0	0
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s	4	4	4	13
PREWASH TIME 2	0 to 30 mn	0	0	0	1
FILLING	SCW / SHW / PW	/	/	/	SHW
PREWASH 2 TEMPERATURE	0 to 95 °C	/	/	/	0
PREWASH 2 DETERGENT	0 to 360 s	/	/	/	0
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s	/	/	/	0
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s	/	/	/	0
PREWASH TIME 3	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW / PW	/	/	/	/
PREWASH 3 TEMPERATURE	0 to 95 °C	/	/	/	/
PREWASH 3 DETERGENT	0 to 360 s	/	/	/	/
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s	/	/	/	/
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s	/	/	/	/
WASH TIME	0 to 30 mn	4	4	2	2
FILLING	SCW / SHW / PW	SHW	SHW	SHW	SHW
WASH TEMPERATURE	0 to 95 °C	50	85	70	90
WASH DETERGENT	0 to 360 s	26	26	26	32
Option : WASH DETERGENT 2	0 to 360 s	0	0	0	0
Option : WASH NEUTRALIZATION	0 to 360 s	13	13	13	16
RUNNING WATER RINSE 1	0 to 9	1	1	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TIME	0 to 30 mn	2	2	2	2
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
ACID RINSE TEMPERATURE	0 to 95 °C	0	0	0	0
NEUTRALIZING ACID	0 to 360 s	26	26	26	26
Option : ACID RINSE NEUTRALIZATION	0 to 360 s	52	52	52	52
RUNNING WATER RINSE 2	0 to 9	1	2	1	1
FILLING	CWM / HWM / PW	CWM	CWM	CWM	CWM
COLD DEMI. TIME 1	0 to 30 mn	1	0	1	1
FILLING	PW	PW	/	PW	PW
COLD DEMI. TIME 2	0 to 30 mn	0	0	1	0
FILLING	PW	/	/	PW	/
COLD DEMI. TIME 3	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
COLD DEMI. TIME 4	0 to 30 mn	0	0	0	0
FILLING	PW	/	/	/	/
HOT DEMI. TIME	0 to 30 mn	1	1	1	1
FILLING	PW	PW	PW	PW	PW
HOT DEMI. TEMPERATURE	0 to 95 °C	50	80	80	80
OPTION : LUBRICANT	0 to 360s	0	0	0	0
DRYING TIME	0 to 90 mn	10	25	25	25
DRYING	Maxi / Adjusted	Adjust.	Maxi	Maxi	Maxi
COOLING	0 to 30 mn	0	5	5	5

5.10 TABLE OF FACTORY-PROGRAMMED CYCLES SOFTENER OPTION (NO PURIFIED WATER AVAILABLE) – 1300 LX

Water consumption estimated per phase (depends on the baskets/racks used): 15 liters.
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

SEQUENCES	POSSIBILITIES	Volumetric Flasks PROG. 01	Bacterio. Virology PROG. 02	Chemistry Biology PROG. 03	Agarose Gel PROG. 04
PREWASH TIME 1	0 to 30 mn	1	2	2	2
FILLING	SCW / SHW	SHW	SHW	SHW	SHW
PREWASH 1 TEMPERATURE	0 to 95 °C	0	0	0	90
PREWASH 1 DETERGENT	0 to 360 s	7	7	7	26
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s	0	0	0	0
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s	4	4	4	13
PREWASH TIME 2	0 to 30 mn	0	0	0	1
FILLING	SCW / SHW	/	/	/	SHW
PREWASH 2 TEMPERATURE	0 to 95 °C	/	/	/	0
PREWASH 2 DETERGENT	0 to 360 s	/	/	/	0
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s	/	/	/	0
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s	/	/	/	0
PREWASH TIME 3	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW	/	/	/	/
PREWASH 3 TEMPERATURE	0 to 95 °C	/	/	/	/
PREWASH 3 DETERGENT	0 to 360 s	/	/	/	/
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s	/	/	/	/
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s	/	/	/	/
WASH TIME	0 to 30 mn	4	4	2	2
FILLING	SCW / SHW	SHW	SHW	SHW	SHW
WASH TEMPERATURE	0 to 95 °C	50	85	70	90
WASH DETERGENT	0 to 360 s	26	26	26	32
Option : WASH DETERGENT 2	0 to 360 s	0	0	0	0
Option : WASH NEUTRALIZATION	0 to 360 s	13	13	13	16
RUNNING WATER RINSE 1	0 to 9	1	1	2	2
FILLING	CWM / HWM	CWM	CWM	CWM	CWM
ACID RINSE TIME	0 to 30 mn	2	2	2	2
FILLING	CWM / HWM	CWM	CWM	CWM	CWM
ACID RINSE TEMPERATURE	0 to 95 °C	0	0	0	0
NEUTRALIZING ACID	0 to 360 s	26	26	26	26
Option : ACID RINSE NEUTRALIZATION	0 to 360 s	52	52	52	52
RUNNING WATER RINSE 2	0 to 9	1	2	1	1
FILLING	CWM / HWM	CWM	CWM	CWM	CWM
COLD DEMI. TIME 1	0 to 30 mn	1	0	1	1
FILLING	SCW / SHW	SCW	SCW	SCW	SCW
COLD DEMI. TIME 2	0 to 30 mn	0	0	1	0
FILLING	SCW / SHW	/	/	SCW	/
COLD DEMI. TIME 3	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW	/	/	/	/
COLD DEMI. TIME 4	0 to 30 mn	0	0	0	0
FILLING	SCW / SHW	/	/	/	/
HOT DEMI. TIME	0 to 30 mn	1	1	1	1
FILLING	SCW / SHW	SHW	SHW	SHW	SHW
HOT DEMI. TEMPERATURE	0 to 95 °C	50	80	80	80
OPTION : LUBRICANT	0 to 360s	0	0	0	0
DRYING TIME	0 to 90 mn	10	25	25	25
DRYING	Maxi / Adjusted	Adjust.	Maxi	Maxi	Maxi
COOLING	0 to 30 mn	0	5	5	5

5.11 USER CYCLE PROGRAMMING TABLE

The programs 5 and 6, 11 to 16, 21 to 26, 31 to 36, 41 to 46, 51 to 56, 61 to 66 are free and can be programmed by yourself.

Water consumption estimated per phase (depends on the baskets/racks used) :
820LX: 14 L 910LX: 13 L 1300LX: 15 L
Output from acid and detergent pumps (depends on the chemicals used): 280 ml/mn.

It is not recommend to set wash programs at maximum values for time and temperature as this will result in reduced equipment life and increased maintenance frequency of equipment.

If you wish to create a custom wash program, please refer to the factory default programs for examples of typical times and temperatures.
You may also contact your GETINGE LANCER representative for advice on creating wash programs.

SEQUENCES	POSSIBILITIES	PROG.	PROG.	PROG.	PROG.
PREWASH TIME 1	0 to 30 mn				
FILLING	Water				
PREWASH 1 TEMPERATURE	0 to 95 °C				
PREWASH 1 DETERGENT	0 to 360 s				
OPTION : PREWASH 1 DETERGENT 2	0 to 360 s				
Option : PREWASH 1 NEUTRALIZATION	0 to 360 s				
PREWASH TIME 2	0 to 30 mn				
FILLING	Water				
PREWASH 2 TEMPERATURE	0 to 95 °C				
PREWASH 2 DETERGENT	0 to 360 s				
OPTION : PREWASH 2 DETERGENT 2	0 to 360 s				
Option : PREWASH 2 NEUTRALIZATION	0 to 360 s				
PREWASH TIME 3	0 to 30 mn				
FILLING	Water				
PREWASH 3 TEMPERATURE	0 to 95 °C				
PREWASH 3 DETERGENT	0 to 360 s				
OPTION : PREWASH 3 DETERGENT 2	0 to 360 s				
Option : PREWASH 3 NEUTRALIZATION	0 to 360 s				
WASH TIME	0 to 30 mn				
FILLING	Water				
WASH TEMPERATURE	0 to 95 °C				
WASH DETERGENT	0 to 360 s				
Option : WASH DETERGENT 2	0 to 360 s				
Option : WASH NEUTRALIZATION	0 to 360 s				
RUNNING WATER RINSE 1	0 to 9				
FILLING	Water				
ACID RINSE TIME	0 to 30 mn				
FILLING	Water				
ACID RINSE TEMPERATURE	0 to 95 °C				
NEUTRALIZING ACID	0 to 360 s				
Option : ACID RINSE NEUTRALIZATION	0 to 360 s				
RUNNING WATER RINSE 2	0 to 9				
FILLING	Water				
COLD DEMI. TIME 1	0 to 30 mn				
FILLING	Water				
COLD DEMI. TIME 2	0 to 30 mn				
FILLING	Water				
COLD DEMI. TIME 3	0 to 30 mn				
FILLING	Water				
COLD DEMI. TIME 4	0 to 30 mn				
FILLING	Water				
HOT DEMI. TIME	0 to 30 mn				
FILLING	Water				
HOT DEMI. TEMPERATURE	0 to 95 °C				
OPTION : LUBRICANT	0 to 360s				
DRYING TIME	0 to 90 mn				
DRYING	Maxi / Adjusted				
COOLING	0 to 30 mn				

CHAPTER 4
TRACEABILITY

These last years, TRACEABILITY has become a crucial issue. The matter is to control permanently the correct development of the washing cycle and to obtain its validation.

TRACEABILITY enables the supervision of the correct performance of parameters such as washing, chamber filling, detergent taking, effective temperature, duration of the phases.

During the development of the program all the data must be registered, archived in paper support.

Whatever the result of the cycle, you must monitor the printouts issued by the printer of the washer before classifying and filing them.

Note : GETINGE LANCER recommends to photocopy or scan the washing cycle printouts.

1. EXTERNAL PRINTER (OPTION)

ITS ROLE:

The GETINGE LANCER PRINTER gives permanently the development of the washing.

Also, it permits the stock of the information.

ITS RESULTS:

At the end of the program, the results are registered and archived, whether on a paper support by the mean of a horodated ticket.

EXTERNAL PRINTER

(desktop printer)

2. THE PRO KIT (OPTION)

The washers are controlled by a programmable microprocessor. In order to obtain an independent verification of the washing process, an additional card is provided. The PRO KIT is a microprocessor independent from the controller and equipped with its own sensors and clock.

ITS ROLE:

The PRO KIT is a system of verification of the washing parameters. It checks permanently the right development of the washing cycle and an important support for a validation, as well as the stock of the information.

ITS RESULTS:

At the end of the program, the results are registered and archived, whether on a paper support by the mean of a horodated ticket, or on a magnetic support via a RS 232 connection.

CHAPTER 5
MAINTENANCE OF THE WASHER

This chapter describes the maintenance operations to assure the good working of your washer.

RESIDUES OF PRODUCTS SUCH AS ACETONE, SOLVENTS, PETROLEUM, PETROLEUM DERIVATIVES, CHROMIUM SULPHATE, ACID (SULPHURIC, NITRIC, HYDROCHLORIC EVEN AT A LOW CONCENTRATION), MUST NOT BE USED OR PLACED IN THE WASHER IN ANY CIRCUMSTANCES.

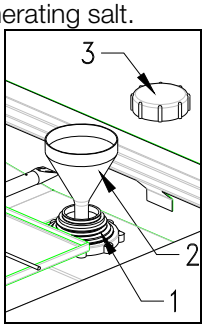
1. REGENERATING OF SOFTENER (OPTION)

Only for washers with regeneration.

This function is automatic (masked time).

When the display unit indicates "SALT RECHARGE", it is essential to fill the salt pot located at the bottom of the chamber, inside the washer. Use special softening, regenerating salt.

1	Salt pot
2	Filling funnel
3	Salt pot cap

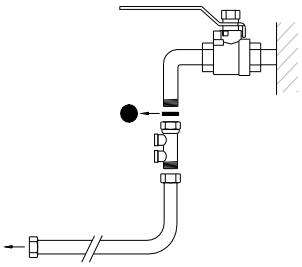


DO NOT FORGET TO CAP SALT POT AFTER FILLING WITH SALT

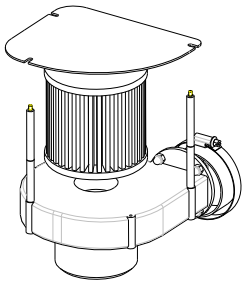
2. FILTERS

2.1 STRAINERS FILTERS

Check the cleanness of the strainer filters and clean them if needed.



2.2 DRYING AIR FILTER

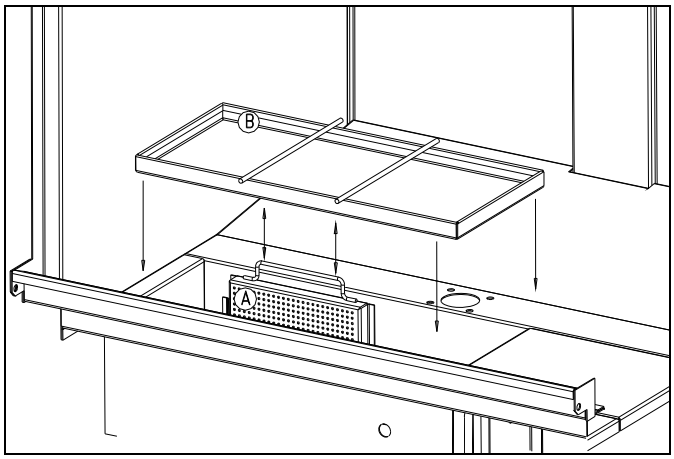


The life duration of the drying air filters depends on the rate of use of the washer-dryer and the quality of the near air.

We recommend the preventive change of the drying air filters at least one time every year.

2.3 CHAMBER FILTERS

These two filters prevent the residues to enter the hydraulic circuit.



A	PUMP SUCTION FILTER
B	CHAMBER BOTTOM FILTER

Do not forget to clean the filters after each cycle.
If you regularly do not clean the filters, the performances of your machine are likely to be affected for it.

DO NOT FORGET TO REPLACE THE FILTERS BEFORE LAUNCHING A WASHING CYCLE

3. SHUT DOWN AT END OF DAY

SHUT OFF THE WATER INLET COCKS so that the valves are not left pressurized. Do not forget to open them again before using the appliance.

4. EXTERNAL MAINTENANCE OF THE WASHER-DRYER

GETINGE LANCER washers are entirely covered with panels (bodywork) in stainless steel AISI 304L.

4.1 CLEANING METHOD

The periodic maintenance cleaning must be done with a 3

PRUDENCE:
TRY TO AVOID THE PROJECTIONS OF LIQUID OVER THE WASHER-DRYER.

4.2 CLEANING PRODUCTS

GETINGE LANCER offers a maintenance product for stainless steel in the market under the name of LANCERSHINE.

A safe and efficient aerosol cleaning product for a use in the external side of the stainless machines and other equipments to be washed, assuring a very professional finishing.

Available in container of 450 ml. Ref: LANCERSHINE

DETERGENTS, SOAPS:

All the detergents, soaps or cleaning products found in shops can normally be used, but they MUST NOT contain chlorinated products. Domestic soaps for dishwashers or washing machines are particularly adapted to the periodical cleaning.

ABRASIVE DUSTS:

These products can stripe the stainless steel surfaces and modify then the aspect, at least locally. Even that, their use can be useful to eliminate by scraping the adherent spots.

ACID PRODUCTS:

The resource to these acid-cleaning products must only be used in specific cases.
Vinegar (acetic acid) can be used to remove stains left by minerals.
There are phosphoric acid-based or nitric acid-based products specially conceived for the cleaning of stainless steels. It is convenient to follow strictly the instructions given by theirs manufacturers.
The chloric disinfectants must only be used with caution: diluted solution in cold water, short contact time, abundant rinsing.

IN ALL THE CASES IT IS NECESSARY TO PROCEDE AFTER THE CLEANING TO AN ABONDANT AND CAREFUL RINSING (WITH A SOFT TEXTILE), IN ORDER TO ELIMINATE EVERY TRACE OF THE USED PRODUCT.

5. DECONTAMINATION OF THE MACHINE AND PARTS

5.1 WHEN TO DECONTAMINATE THE WASHER ?

Special care must be taken to protect users and maintenance personnel from coming in contact with the chemicals, temperatures, and hazardous materials that may be used in this machine. This can occur due to a wash cycle being prematurely interrupted by opening the door, turning off power, or an alarm condition.

If the door has been inadvertently opened, the machine should be allowed to cool down for one hour then the door should be shut and the cycle restarted. If the power has been inadvertently turned off, it should be turned on and the cycle restarted.

If the washer has stopped due to an alarm condition that requires a maintenance technician, the maintenance technician must decontaminate the machine before performing the repairs.

5.2 HOW TO DECONTAMINATE THE MACHINE ?

Press key to switch the washer off.

The machine should be allowed to cool down for one hour.

Use the necessary personal protection (gloves, mask, safety glasses…).

Remove the Waste Water Flexible emptying hose from the standpipe and place it in a large containment sump (that can hold 14 liters (3.7 gallons)) with a top edge no more than 100 mm (4 inches) above the floor. This will siphon water from the basin into the containment sump.

Replace the Waste Water Flexible emptying hose into the standpipe.

Remove the 2 basin filters and use an external pump to remove the remainder of the water from the bottom of the chamber. Replace the 2 basin filters.

Remove the necessary side panel(s) in order to gain access to the components that need to be repaired or replaced.

Perform the repairs by replacing the parts in the same manner by which they were installed in the factory. Please note that all safety devices on this machine are factory preset and will not require any modification or calibration by maintenance personnel.

Replace the side panel(s) that were removed.

Press key to switch the washer on.

Dispose of used parts that may have been exposed to toxic chemicals or contaminated by pathogenic materials according to local and company regulations. Please consult the Material Safety Data Sheet for specific information regarding the chemicals used in this machine.

6. PREVENTIVE MAINTENANCE

GETINGE LANCER TECHNICAL ASSISTANCE SERVICE recommends to all the users at least one annual preventive maintenance visit.

The preventive maintenance reduces the risks of stops of the washer-dryer due to breakdowns and enables enlarge the life duration of the equipments.

Depending on the countries where the washer-dryer is used and the local norms, a higher frequency of preventive maintenance visits can be necessary.

7. PREVENTATIVE MAINTENANCE SCHEDULE

FUNCTION	Daily (1)	Biannual	1 Year (2)	2 Years (2)	5 Years (2)
Clean filter system in chamber.	X	X	X	X	X
Check chemical containers for any leakage.	X	X	X	X	X
Ensure chemical hoses are not pinched.	X	X	X	X	X
Clean exterior panels.	X	X	X	X	X
Inspect water supply hoses for cracks, bulges, and leaks.		X	X	X	X
Ensure the water hose seals and filters are clean and have no cracks.		X	X	X	X
Check chemical supply hoses for cracks, bulges and leaks.		X	X	X	X
Inspect internal tubing on chemical pumps for wear.		X	X	X	X
Check chemical level sensors for correct operation.		X	X	X	X
Ensure all panels are properly secured.		X	X	X	X
Check all internal hoses for cracks, bulges and leaks.		X	X	X	X
Ensure all hose clamps are properly tightened.		X	X	X	X
Check all column seals for leaks and cracks.		X	X	X	X
Check spray arm support seals for leaks and cracks.		X	X	X	X
Check spray arms and bushings for wear.		X	X	X	X
Check door seal and gasket for leakage.		X	X	X	X
Inspect the door springs, door wheels and their sling, hooks, door switch for proper operation.		X	X	X	X
Check recycling and emptying pump seals for leakage and quiet operation.			X	X	X
Check for lose electrical connections at components and electronic cards.			X	X	X
Verify the correct operation of all relays and their associated components.			X	X	X
Change the heating relay			X	X	X
Change the Hepa filter of the dryer			X	X	X
Verify the correct operation of the fan of the dryer			X	X	X
Verify the correct operation of the non-return valve of the drying network			X	X	X

(1) Daily maintenance must be handled by users staff.
(2) Others maintenances (bi-annual, 1 year, 2 years & 5 years) must be carry out by the GETINGE LANCER's technical assistance service.

8. RECOMMENDED SPARE PARTS

8.1 RECOMMENDED SPARE PARTS 820 LX

Description	Part #	Quantity/Machine
Door Spring	12010003	2
Door wheels	46020064	2
Door sling	46040004	2
Emptying Pump 50hz	23010047	1
Emptying Pump 60hz	23010070	
Pressurestat	28020066	1
Autoclude™ Internal tubing	23080014	2
Main Pump 50hz	23010076	1
Main Pump 60hz	23010074	
capacitor	23080098	1
Door Seal	14050003	3
Bottom Door Seal	04120002	1
Column Seal	14030041	2
Threaded Connection	33080026	2
Water Inlet Filter/Seal	17010025	2
Spray Arm Washer	31040012	2
Heating Relay	20030007	1
HEPA filter of the dryer	17020033	1
Fan of the dryer	23080146	1
Non-return valve	32010035	1

8.2 RECOMMENDED SPARE PARTS 910 LX

Description	Part #	Quantity / Machine
Door Spring	12010003	2
Door wheel	46020064	2
Door sling	46040004	2
Emptying Pump 50hz	23010002	1
Emptying Pump 60hz	23010018	
Pressurestat	28020066	2
Autoclude™ Internal tubing	23080014	2
Main Pump 50hz	23010106	1
Main Pump 60hz	23010107	
Capacitor 50hz	26010006	1
Capacitor 60hz	26010011	
Door Seal	14050003	1
Bottom Door Seal	04120002	1
Column Seal	14030041	2
Threaded Connection	33080026	2
Water Inlet Filter/Seal	17010025	2
Spray Arm Washer	31040012	2
Heating Relay	20030007	1
Drying Hepa filter	17020033	1
Fan of the dryer	23080146	1
Non-return valve	32010035	1

8.3 RECOMMENDED SPARE PARTS 1300 LX

Description	Part #	Quantity / Machine
Door Spring	12010003	2
Door wheel	46020064	2
Door sling	46040004	2
Emptying Pump 50hz	23010002	1
Emptying Pump 60hz	23010018	
Pressurestat	28020066	2
Autoclude™ Internal tubing	23080014	2
Main Pump 50hz	23010117	1
Main Pump 60hz	23010118	
Capacitor 50hz	26010015	1
Capacitor 60hz	26010016	
Door Seal	14050003	1
Bottom Door Seal	04120002	1
Column Seal	14030041	2
Threaded Connection	33080026	2
Water Inlet Filter/Seal	17010025	2
Spray Arm Washer	31040012	2
Heating Relay	20030007	1
Drying Hepa filter	17020033	1
Fan of the dryer	23080146	1
Non-return valve	32010035	1

9. DISPOSAL OF WASHER-DRYER

At the end of life of the washer dryer, the users' attention is drawn to the requirement not to dispose of waste electrical and electronic equipment (WEEE) as unsorted municipal waste and to collect such WEEE separately.

CHAPTER 6
PROBLEMS

In this chapter you will get all the problems that you might get on your washer.

In a general way and whatever the noted anomaly, it is appropriate to stop the machine, to disconnect the power supply cable and to turn off the taps of water arrivals.

1. INCIDENTS

1.1 THE DETERGENT OR NEUTRALIZING AGENT DOES NOT ENTER THE WASHER

- The tube is blocked.
- The tank is empty.
- The pump hose is pinched.

1.2 THE WASHER DOES NOT FUNCTION

- It is not connected to the power supply.
- There is mains power.
- The circuit-breaker protecting the electrical control circuit has been tripped. CONSULT THE TECHNICAL DEPARTMENT.

1.3 ABNORMAL NOISE

- One of the washing arms is touching one or more of the items to be washed.
- Check the loading of the washer.

EVERY MAINTENANCE AND TECHNICAL INSTALLATION INTERVENTION MUST BE DONE BY A TECHNICIEN ENTITLED TO WORK UNDER TENSION.

2. WARNINGS

2.1 - LACK OF SALT * :

** only for washers with regeneration*

INCIDENT:

The following message is displayed at the start of the cycle when you press the START key.

ACTION:
Fill the salt pot located inside the washer.

2.2 - LACK OF PRODUCTS

INCIDENT:

The following message is displayed at the start of the cycle when you press the START key.

ACTION:
Check level of additive tanks, replace additive low level tank.

2.3 HOT CHAMBER

INCIDENT:
The following message is displayed if the temperature inside the washing chamber is above the safety temperature set point for door opening.

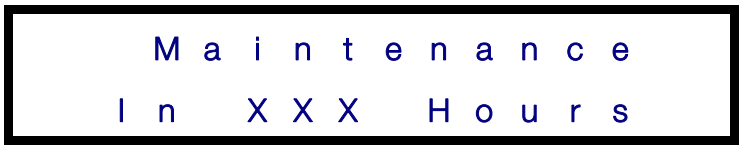
ACTION:
At the end of the cycle, let the washer chamber and contents cool before opening the chamber door.

2.4 FULL BASIN

INCIDENT:
If the wash chamber contains water at the beginning of the cycle, either from the interruption of the previous cycle or due to an abnormal addition of water to the chamber.

ACTION:
The washer is automatically emptied and the cycle then proceeds normally.

2.5 MAINTENANCE REMINDER



INCIDENT:
After turning on the machine, the reminder of the upcoming preventative maintenance is shown on the display.

ACTION:
Press the START key to acknowledge the reminder. Schedule a preventative maintenance service call.

2.6 PREVENTATIVE MAINTENANCE REQUIRED

INCIDENT:
After starting the wash cycle, the preventative maintenance message is shown on the display.

ACTION:
Press the START key to acknowledge the reminder. Preventative maintenance should be performed on the machine.

3. FAULT ALARMS

These alarms stop the operation of the washer. To clear the alarm mode, the washer must be switched off by pressing ⏻ button.

3.1 FAULT N°1 PROBE FAULT.

INCIDENT:
The probe used to check the temperature of the water in the chamber is disconnected or defective.

ACTION:
CONTACT A MAINTENANCE TECHNICIAN to check the electrical connection and the condition of the probe.

3.2 FAULT N°2 EMPTYING FAULT.

INCIDENT:
The washer has not been fully emptied at the end of the normal emptying time defined in the Common Times menu.

ACTION:
Check that there is no restriction on the emptying line, that the emptying pump (or the valve) and its pipes are not blocked and that the chamber filters are not clogged.

This message may be displayed at the end of PREWASH 1, PREWASH 2, WASH, RUNNING WATER RINSE 1, ACID RINSE, RUNNING WATER RINSE 2, COLD DEMI. WATER RINSE and HOT DEMI. WATER RINSE.

3.3 FAULT N°3 HEATING EXCESS.

INCIDENT:
It displays if the basin temperature exceeds the programmed temperature by 20°C.

ACTION:
Verify that the incoming water temperature does not exceed the programmed setpoint temperature.
CONTACT A MAINTENANCE TECHNICIAN.

3.4 FAULT N°4 HEATING FAULT.

INCIDENT:
This message is displayed during one of the heating phases if the water temperature has not increased after 8 minutes of heating duration.

ACTION:
CONTACT A MAINTENANCE TECHNICIAN TO CHECK :
- the electrical connections,
- the condition of heating elements,
- the safety thermal cut-out with manual reset.

This message may be displayed during the heating phase of PREWASH 1, PREWASH 2, WASH, and HOT DEMI. WATER RINSE.

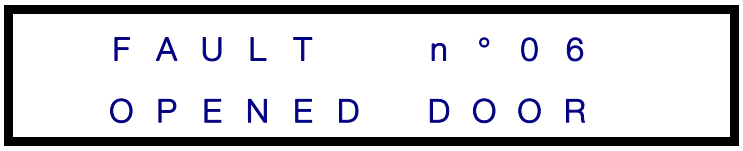
3.5 FAULT N°5 NO WATER.

INCIDENT:
The washer did not reach the required water level by the end of the normal filling time defined in the Common Times menu.

ACTION:
Check that the water inlet valves are open, that the water inlet pipes are in good condition and that the water inlet filters are clean.

This message may be displayed during filling for PREWASH 1, PREWASH 2, PREWASH 3, WASH , RUNNING WATER RINSE 1, ACID RINSE, RUNNING WATER RINSE 2, COLD DEMI. WATER RINSES and HOT DEMI. WATER RINSE.

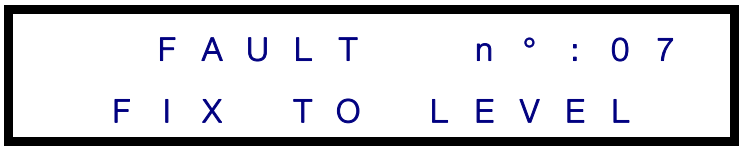
3.6 FAULT N°6 DOOR FAULT



INCIDENT:
It displays when the door is opened during the cycle. The cycle is stopped.

ACTION:
Shut the door and start the cycle again.

3.7 FAULT N°7 LEVEL FAULT.



INCIDENT:
After achieving the proper water level during the Filling Time, the water level has dropped causing the pressurestat to open times to indicate fluctuation of the water level in the machine.

ACTION:
Check if you have a leak or if the emptying tube is out of location.

3.8 FAULT N°9: SAMPLING

INCIDENT :
During the sampling phase of the wash cycle, the sample in the chamber was not performed within the 30 minutes period.

ACTION :

Sample the water during the 30 min period, then press the START key.

Pictures and drawings non contractual. GETINGE LANCER reserves the right to make changes in this manual

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